

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/050195

International filing date (day/month/year)
24.02.2004

Priority date (day/month/year)
25.03.2003

International Patent Classification (IPC) or both national classification and IPC
H04L12/56

Applicant
IDEAS NETWORK LTD

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/050195

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-22
Inventive step (IS)	Yes: Claims	
	No: Claims	1-22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V.

1. The following document is referred to in this communication:

D1: XP 000570739

D2: US 5,535,195

- 1.1 Document **D1** (see the passages cited in the Search Report) discloses, according to the essential features of **claim 1**, a method of generating a routing table of destinations for a first physical node of a data communication network which network consists of a plurality of nodes, links interconnecting said nodes and a plurality of destinations associated with respective nodes (see "hierarchical PNNI Routing in ATM networks" in abstract; implicit routing tables in ATM "switching systems", "nodes" and "links" on page 82, left column, lines 27-29), comprising the steps of:

a) collecting topological information on at least a part of the data communication network in terms of physical nodes and links between physical nodes (see implicit with "topology aggregation" on page 82, right column, lines 18-21);

b) embedding the collected topological information in a plane corresponding to a first network level (see "lowest level" on page 82, lines 30-34);

c) identifying one or more closed loops of interconnected nodes lying in the plane of said network level (see "Child Peer Group" in figure 1);

d) for a first further network level (see "higher level" on page 82, left column, line 34 to page 82, right column, line 5), assigning a virtual node for each closed loop of interconnected nodes in the previous network level (see "Logical group node" in figure 1), each virtual node being representative at the further network level of the nodes of the corresponding closed loop in the previous network level and any destinations associated with those nodes (see page 83, right column, line 26 to page 83, right column, line 1);

e) identifying links between said virtual nodes (see the lines connecting the "Border Nodes" in figure 1), the links corresponding to nodes in the previous network level that are common to two or more virtual nodes in the further network level (see "border node" and "link that crosses the peer group boundary" on page 83, right column, lines 5-9; page 83, right column, lines 10-15);

whereby the route between said first physical node and destination

associated with a further physical node of the data communication network is defined in relation to a network level at which said first physical node and the further physical node are interconnected by a single path (see figure 1); and

f) populating the routing table of the first physical node for each destination with the set of paths that belongs to the previous network level corresponding to the single path at the network level at which the first physical node and said destination are interconnected (see "topology information", "link state parameter" and "nodal state parameter" on page 82, right column, lines 6-17).

The subject-matter of **claim 1** therefore is **not** new (see Article 33 (1) and (2) PCT).

It should furthermore be noted that **even if** the Applicant intended to argue novelty of claim 1, based on minor differences between the features of said claim 1 and those disclosed in document **D1**, the subject-matter of claim 1 would **not involve an inventive step**, Articles 33(1) and (3) PCT, having regard to the disclosure of document **D1** and the normal knowledge of a person skilled in the art of Topology Aggregation for Hierarchical Routing, see e.g. document **D2**.

- 1.2 Furthermore, the same considerations as made in paragraph 1.1 above also apply to **independent claims 14, 17 and 21** since these claims include the same feature combination as claim 1 in terms of a network node, data communication network and relating method claims.

The subject-matter of claims 14, 17 and 21 therefore does **not** meet the requirements of Article 33 (1) PCT.

- 1.3 The **dependent claims 2 to 13, 15, 16 and 22** do not contain any additional feature which, in combination with the features of the claims to which they respectively refer, meet the requirement of the PCT with respect to **novelty** or **inventive step** (see Article 33 (1), (2) and (3) PCT) for the reason that the subject-matter of said claims is either in principle derivable from the disclosure of document **D1** (see also section 2, page 84 to section 7, page 91), document **D2** (see abstract; figures 1-9; column 2, lines 32-38) or represents simple design details which are generally known to the person skilled in the art of topology

aggregation for hierarchical routing.

Due to the above reasons, **dependent claims 2 to 13, 15, 16 and 22** do **not** meet the requirement of Article 33 (1) PCT.

- 1.4 It is not at present apparent which part of the application could serve as a basis for a new set of claims meeting the requirements of Article 33 (1) PCT. Should the Applicant nevertheless regard some particular matter as **new** and **inventive**, an independent claim including such particular matter should be filed taking account of **Rule 6.3 PCT**. The Applicant should also indicate in the letter of reply the differences vis à vis the state of the art and significance thereof (i.e. particular **advantages**).

Re Item VII

Certain defects in the international application

2. Reference signs in parentheses should be inserted in the claims to increase their intelligibility, Rule 6.2 (b) PCT. This applies both the preamble and characterising portion (see PCT-Guidelines for Preliminary Examination, PG-III, 4.11) and to method claims in as far as they refer to apparatus features.
- 2.1 In order to meet the requirements of Rule 5.1 (a) (ii) PCT, the most relevant prior art, i.e. the documents D1 and D2 should be acknowledged by reference and briefly discussed in the introductory part of the description, preferably in such a way that the inventive merit of what is claimed can be readily understood.
- 2.2 Special care should be taken to avoid giving rise to further objections by the inadvertent addition of subject-matter (see Article 34.2 (b) PCT), e.g. by deleting of essential features which keep the invention novel and inventive over a combination of D1 and D2.
- 2.3 The Applicant should also ensure that the claims relate to a single invention (see Rule 13 PCT) especially in case multiple independent claims are still maintained (non-unity a posteriori).

- 2.4 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the Applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).
- 2.5 The Applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT.
- 2.6 Any information the Applicant may wish to submit concerning the subject-matter of the invention, for example further details of its **advantages** or of the **problem it solves**, and for which there is no basis in the application as filed, should be confined to the letter of reply and not be incorporated into the application (see Article 34(2)(b) PCT).
- 2.7 Moreover, the Applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.